



● **NEW WAC PROPOSAL for Service Conductors—Two-family and Multiple-occupancy Buildings**

This is an advance notice of a proposed electrical (WAC) rule change to WAC 296-46A-23040 (will be WAC 296-46B-230 042-Service conductors in the new rules) that will likely modify the design of services on multiple-occupancy buildings. Under the existing rule, a second or additional service drop or lateral on a building is permitted in a separate location if: 1) they are sized per Code, 2) they terminate in metering/service equipment on the units served, 3) they originate from the same transformer, 4) they are properly labeled, and 5) they are separated by a minimum of 15 feet from other service equipment.

Under the new rule (WAC 296-46B-230 040), a second or additional service drop or lateral on a building is permitted in a separate location if: 1) they are sized per Code, 2) they terminate in metering/service equipment, 3) they originate from the same transformer, 4) **no more than six service disconnects may be supplied from a single transformer**, 5) they are properly labeled, and 6) **they may be located anywhere on the building** (no mandatory 15 foot separation).

For example, an eight-unit apartment building would not be able to be served with two “four-pack” meter-main services (8 service disconnects) located on a single building. If a designer wants more than six service disconnects on a structure, then the structure must be divided into separate “buildings” with fire wall separations of a minimum 2-hour rating.

● **NEW WAC PROPOSAL for GFCI Protection—Other Than Dwelling Units**

A proposed electrical rule change (to be titled WAC 296-46B-210 008B-Other Than Dwelling Units-GFCI Requirements) will place new requirements for GFCI protection in occupancies other than dwelling units. The language is simple: *“For the purposes of NEC 210.8(B), all 125 volt, single phase, 15- and 20-ampere receptacles must have ground-fault circuit-interrupter protection for personnel as required by NEC 210.8(A). Kitchens in other than dwelling units are considered to be any work surface where food and/or beverage preparation occurs and other countertops or islands.”* This means anyplace GFCI protection is required in a dwelling unit (i.e. bathrooms, garages, outdoors, crawl spaces, unfinished basements, kitchens, wet bar sinks, and boathouses), it will be required in a commercial or industrial installation as well. The definition of “kitchens in other than dwelling units” should clarify the specific locations for GFCI protection. This may actually reduce the number of required GFCI receptacles since the 2002 NEC text and many related training programs seem to indicate that all receptacles (under counters, behind equipment, etc.) in commercial kitchens require GFCI protection.

The risk of electrical shock is identical for personnel working on or with the electricity in these (GFCI required) locations, so commercial, industrial, or residential occupancy will no longer be part of the choice the installer may make. This new rule does not supersede any specific requirement for (or exclusion from) GFCI protection in NEC chapter 4-Equipment, chapter 5-Special Occupancies, or chapter 6-Special Equipment.

● **NEW WAC PROPOSAL for General Inspection—Siding Before Wiring**

There is documented evidence of severe damage to wiring and equipment (i.e. cables, panels, and boxes) when impact nail guns are used to install siding and sheathing after the electrical installation is installed. A proposed rule [WAC 296-46B-101(8) Inspection] will reduce the number of safety problems created by other trades unaware of the damage they might be causing to the electrical installation. Since it may affect the workflow on many construction projects, electrical contractors should make their general contractors aware of the new rule. The new text reads, *“On wood framed structural walls where automated impact nail drivers are used to install the structural sheathing or finish siding, the sheathing and finish siding must be installed prior to installing cable or conduit systems.”*

● Scope-of-Work For The HVAC/refrigeration (06A) Specialty—Listed Accessories

This is the seventh time that scope-of-work for the HVAC/refrigeration (06A) specialty has been addressed in this publication. Previous articles have been printed in the February 1999, June 1999, October 1999, December 1999, June 2000, and October 2001 editions. These articles are archived and available at: <http://www.lni.wa.gov/scs/electrical/elc.htm>.

An HVAC/refrigeration (06A) specialty electrician may install listed HVAC and refrigeration equipment accessories, options, and kits in HVAC/refrigeration equipment when the manufacturer's schematic wiring diagram, parts lists, and/or installation instructions show the accessories have been evaluated for use on a specific piece of unit equipment. Typically these approved accessories are items like electric strip heating modules, low-ambient temperature controls, economizer damper assemblies, crankcase heaters, hard-start kits, liquid-line solenoid valves, freeze thermostats, time-delay relays, and electronic air filtering equipment. The allowable work for the 06A specialty does not include any new supply branch circuit, feeder, service, panelboard, or main disconnect modifications that may be necessary due to the addition of the listed accessories.

If the 06A specialty electrician adds any accessory components (as described above) that are not listed for use in the specific equipment modified, then the equipment must be field evaluated by an electrical product testing or field evaluation laboratory accredited in Washington.

● Marking Required For HVAC Equipment

This article was written at the request of our electrical inspectors, so HVAC installers and contractors take notice. We want you to have the opportunity to avoid return trips to make corrections by being aware of all the requirements that may apply to your equipment installation or modification.

NEC 424-28(A) states, "**Marking Required.** Each unit of fixed electric space-heating equipment shall be provided with a nameplate giving the identifying name and the normal rating in volts and watts or in volts and amperes" and "Electric space-heating equipment intended for use on alternating current only or direct current only shall be marked to so indicate. The marking of equipment consisting of motors over 1/8 hp and other loads shall specify the rating of the motor in volts, amperes, and frequency, and the heating load in volts and watts or in volts and amperes." Many installers are not marking the nameplate for the size of heating elements installed. Part (B) of the article specifies, "**Location.** This nameplate shall be located so as to be visible or easily accessible after installation."

You must do the field marking on the nameplate provided by the manufacturer and identify any electric strip heating modules you have installed or added that are not identified at the factory.

● Electrical Question of the Month

This Month's Question: According to the 2002 NEC, circuit breakers used as switches to control mercury vapor luminaries (lighting fixtures) shall be listed and marked as _____?

A) "SWD", B) "HID", C) "SWD" or "HID", D) "HACR"

Last Month's Question: Does the following installation comply with the motor contribution limitations of a series rated system found in NEC 240.86(B)? [2002 NEC]

The answer is: C) No, the total motor contribution is more than 1% of the lower-rated circuit breaker. When power is removed from a motor it will continue to rotate and will actually contribute to the fault current that is available. These motors are connected in the middle of the series rated combination, and are therefore limited to 1% of the lower rated device, which in this case is 100 amps. The total motor contribution from Table 430.150 is 105.4 amps (46.2 amps + 59.2 amps = 105.4 amps)

